

Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-58. (Cancelled)

59 An apparatus, comprising logic to:

determine, based on data received from a first linked device, whether to apply flow control to an Ethernet link in accordance with either (1) a Xon/Xoff protocol that enables/disables a Ethernet communication link or (2) a priority based flow control protocol that selectively enables/disables transmission of Ethernet frames based on multiple priority levels;

if it is determined to apply the priority based flow control protocol that selectively enables/disables transmission of Ethernet frames to the first linked device based on multiple priority levels:

receive a single Ethernet control frame from the first linked device, the single received Ethernet control frame comprising data identifying the received Ethernet frame as a control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to, and data identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic; and

in response to the received Ethernet control frame from the linked device, ceasing transmission of Ethernet frames associated with the multiple priority levels identified by the received Ethernet control frame for a time period based on the data

identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic included in the received Ethernet control frame; and automatically resuming transmission of Ethernet frames associated with the multiple priority levels identified by the received Ethernet control frame after a time period based on the data identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic included in the received Ethernet control frame;

determine multiple priority levels of Ethernet traffic for a second linked device to apply flow control to; and

constructing and transmitting a single Ethernet control frame to the second linked device, the single transmitted Ethernet control frame comprising data identifying the transmitted Ethernet frame as a control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to at the second linked device, and data identifying at least one time duration for the second linked device to apply flow control to the multiple priority levels of Ethernet traffic identified by the transmitted Ethernet control frame.

60. The apparatus of claim 59,

wherein multiple priority levels correspond different ones of multiple transmission queues to enqueue egress Ethernet frames.

61. The apparatus of claim 59,

wherein multiple priority levels correspond to different ones of multiple receive queues to enqueue received Ethernet frames.

62. An apparatus, comprising logic to:

monitor multiple receive queues to enqueue received Ethernet frames having respective priority levels associated with respective ones of the multiple receive queues; based on the monitoring, determine multiple priority levels of Ethernet traffic from a linked device to apply flow control to; and

constructing and transmitting a single Ethernet control frame to the linked device, the single Ethernet control frame comprising data identifying the Ethernet frame as a control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to, and data identifying at least one time duration for the second device to apply flow control to the multiple priority levels of Ethernet traffic identified by the Ethernet control frame.

63. The apparatus of claim 62, comprising logic to:

access data identifying multiple priority levels to apply flow control to for different linked devices.

64. A method, comprising:

determining, based on data received from a first linked device, whether to apply flow control to an Ethernet link in accordance with either (1) a Xon/Xoff protocol that enables/disables a Ethernet communication link or (2) a priority based flow control

protocol that selectively enables/disables transmission of Ethernet frames based on multiple priority levels;

if it is determined to apply the priority based flow control protocol that selectively enables/disables transmission of Ethernet frames to the first linked device based on multiple priority levels:

receiving a single Ethernet control frame from the first linked device, the single received Ethernet control frame comprising data identifying the received Ethernet frame as a control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to, and data identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic; and

in response to the received Ethernet control frame from the linked device, ceasing transmission of Ethernet frames associated with the multiple priority levels identified by the received Ethernet control frame for a time period based on the data identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic included in the received Ethernet control frame; and

automatically resuming transmission of Ethernet frames associated with the multiple priority levels identified by the received Ethernet control frame after a time period based on the data identifying at least one time duration to apply flow control to the identified multiple priority levels of Ethernet traffic included in the received Ethernet control frame;

determining multiple priority levels of Ethernet traffic for a second linked device to apply flow control to; and

constructing and transmitting a single Ethernet control frame to the second linked device, the single transmitted Ethernet control frame comprising data identifying the transmitted Ethernet frame as a control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to at the second linked device, and data identifying at least one time duration for the second linked device to apply flow control to the multiple priority levels of Ethernet traffic identified by the transmitted Ethernet control frame.

65. The method of claim 64,

wherein multiple priority levels correspond different ones of multiple transmission queues to enqueue egress Ethernet frames.

66. The method of claim 64,

wherein multiple priority levels correspond to different ones of multiple receive queues to enqueue received Ethernet frames.

67. A method, comprising:

monitoring multiple receive queues to enqueue received Ethernet frames having respective priority levels associated with respective ones of the multiple receive queues; based on the monitoring, determining multiple priority levels of Ethernet traffic from a linked device to apply flow control to; and

constructing and transmitting a single Ethernet control frame to the linked device, the single Ethernet control frame comprising data identifying the Ethernet frame as a

control frame, data identifying multiple priority levels of Ethernet traffic to apply flow control to, and data identifying at least one time duration for the second device to apply flow control to the multiple priority levels of Ethernet traffic identified by the Ethernet control frame.

68. The method of claim 67, comprising logic to:
access data identifying multiple priority levels to apply flow control to for different linked devices.